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STATE BUILDING CODE APPEALS BOARD

Date: August 27, 2007

Name of Appellant: Thomas G. Pennel,
Service Address: Schirmer Engineering
707 Lake Cook Road
Deerfield, IL. 60015

In reference to:
Docket Number: 05-442(A)

Property Address: 348 Palmer Rd. (Route 32)
Ware, MA. 01082

Date of Hearing: July 10, 2007

We are pleased to enclose a copy of the decision relative to the above case wherein certain variances from the State Building Code had been requested.

Sincerely:

STATE BUILDING CODE APPEALS BOARD

Patricia Barry, Clerk

cc: State Building Code Appeals Board
BBRS Program Manager

COMMONWEALTH OF MASSACHUSETTS
BOARD OF BUILDING REGULATIONS AND STANDARDS

BUILDING CODE APPEALS BOARD

In the Matter of: Lowe's Home Improvement Center, 348 Palmer Road (Route 32), Ware, MA

Docket Number: **05-442(A)** {Note that on the day of the Hearing, an incorrect Docket Number was read into the record, when in fact, the correct Docket Number is 05-442(A)}

Appellant: Schirmer Engineering Corp., on behalf of Lowe's, Inc.

Hearing Date: July 10, 2007; **Hearing Location:** National Guard Armory, Wellesley, MA

Present: Gary Moccia, Robert Anderson, Timothee Rodrique, Keith Hoyle, Brian Gale, Gayle Pennel, Robert Carasitti, David Mayer, John W. Delaney, Michael Crisafulli, Thomas Riley (BBRS staff), others were present but such is not reflected in the sign-in sheets.

INTRODUCTION

NOTE THAT THIS DOCKET NUMBER, 05-442(A), TOWN OF WARE, AND DOCKET NUMBER 05-441(A), TOWN OF WAREHAM, ARE THE FIRST TWO APPEALS UTILIZING RECENTLY AMENDED PROVISIONS (MAY, 2007) OF 780 CMR 903.2.1 AND 780 CMR 122.4.4

Pursuant to M.G.L. Ch. 143, section 100, M.G.L. Ch. 30A, sections 1.02, 1.03 and sections 122 and 903.2.1 of 780 CMR, a hearing was held before the Board of Building Regulations and Standards (the "Board") in Wellesley, Massachusetts on July 10, 2007. This hearing considered the appeal of Schirmer Engineering Corp., on behalf of Lowe's, Inc. (hereafter referred to as "Appellant"), for a variance for Alternative Fire Protection Designs (hereafter "AFPD") for Lowe's stores. Since these AFPD will be common to future Lowe's Stores utilizing the same AFPD, it was further requested that pursuant to section 903.2.1 of 780 CMR, as in effect as of May 18, 2007, the variance granted also be applied to future Lowe's stores of the same design in the Commonwealth of Massachusetts. Pursuant to that section, the hearing was required to be held before a quorum of the entire Board.

The Appellant and the Board were notified of the hearing by Federal Express overnight delivery sent June 27, 2007, and the Framingham Building Commissioner, the Framingham Fire Department, the Framingham Department of Inspectional Services, the Saugus Inspector of Buildings/Zoning Officer, the Saugus Fire Department, the Hadley Inspector of Buildings/Zoning Enforcement Officer, the Hadley Fire Department, the Seekonk Fire

Department, the Seekonk Building Department, the Plainville Inspector of Buildings, the Plainville Fire Department, the Leominster Building Inspector, and the Leominster Fire Department, the Seekonk Building Department and Fire Department and the Ware and Wareham Building Departments and Fire Departments were notified of the hearing by Federal Express overnight delivery sent June 28, 2007 (the numerous parties notified were so notified as Lowes is planning to construct Lowes Stores of similar design in communities beyond the Town of Ware).

All witnesses were duly sworn at the start of the hearing. The proceedings were recorded, and the digital sound recording of the proceeding is available at the Office of the Board, in the Department of Public Safety, upon request and reasonable advance notification. The following findings and conclusions are based upon the testimony and documents offered by the witnesses, including the third party reviewer, as well as the administrative records of the Board.

The Board Chairman advised the Appellants that due to unexpected illness of one of the Appeals Board members, the Board of Appeal did not have a quorum but noted that the DRAFT Decision with access to the recorded Hearing would be provided to the full Board of Building Regulations and Standards members for their consideration and final vote. The Appellants were offered the choice of postponement or holding the Hearing under the conditions noted and chose to go forward with the Hearing.

FINDINGS OF FACT

(BASED ON THE ALTERNATIVE FIRE PROTECTION DESIGNS – AFPD - PROPOSED BY LOWES)

1. The Appellant is Schirmer Engineering Corp. on behalf of Lowe's, Inc. Schirmer Engineering has an address of 707 Lake Cook Road, Deerfield, IL 60015.

2. The property affected by this Decision is known as the Lowe's Home Improvement Warehouse (Lowe's), to be located at 348 Palmer Road (Route 32), Ware, Massachusetts, as well as future Lowe's stores in the Commonwealth of Massachusetts utilizing the proposed Alternative Fire Protection Designs (AFPD) presented herein.

3. By letter dated June 26, 2007, the Building Inspector of Ware rejected the Appellant's Application for Building Permit based on the Appellant's proposed design of a break tank and supporting equipment and additionally rejected use of NFPA Reference Standards more recent than those currently referenced in the 6th Edition State Building Code (Note that with the exception of the introduction of a break tank, the Lowe's of Ware is proposed designed similarly to the Lowe's of Wareham – Docket No. 05-441(A) – thus there are actually 8 specific variances required for the Lowe's of Ware; these being the 7 variances requested (and granted) for Lowe's of Wareham (Docket No. 05-441(A)) and the variance for the subject break tank design proposed utilized in Ware.

4. The Appellant has retained Schirmer Engineering Corp., Fire Protection Consultants, who has generated two documents that affect this Appeal Case (Schirmer Engineering Report, titled: "Alternative Fire Protection Designs for Lowe's Home Improvement

Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007 (note that a July 13, 2007 variant of the subject Engineering Report now exists that was not part of the Appeal Hearing but reflects requirements of said Hearing). Additionally, in support of the break tank proposed design and requested variance, Schirmer has generated Schirmer Engineering Report, titled" Alternative Fire Protection Design for Lowe's Home Improvement Center, Ware, MA and Future Lowe's Stores, dated June 27, 2007. On these bases, T**HE APPELLANT SEEKS A VARIANCE FOR THE FOLLOWING CONDITIONS** which are not permitted under the current building code but which the applicant seeks to utilize in the property which is the subject of this appeal and on future buildings utilizing the same AFPD and by the same owner, all of which are further detailed in the Schirmer Reports (Note that Lowes utilizes a combination of early suppression fast response sprinkler system (ESFR) design philosophy plus in-rack sprinklers under certain conditions; engineering judgment and, in certain instances, large scale fire testing in the absence of design criteria otherwise typically provided by NFPA-13 and other related National Fire Standards when such Standards do not provide adequate sprinkler system design criteria and also utilizes break tank design when applicable):

VARIANCES SOUGHT FOR:

USE OF NFPA 20-2007 EDITION FOR THE DESIGN OF THE BREAK TANK

- By testimony of the Appellant, the 2007 Edition of NFPA 20 provides necessary guidelines for using a combination of an on-site water storage tank and automatic refill from a reliable source to provide the full fire protection demand – such guidelines are testified lacking in the Building Code's currently referenced Edition of NFPA 20-2003 version.

THE FOLLOWING VARIANCES ARE LIKEWISE SOUGHT FOR THE LOWE'S TOWN OF WARE STORE BUT HAVE ALREADY BEEN IDENTIFIED AND GRANTED BY EARLIER APPEAL OF LOWE'S OF WAREHAM {APPEAL DOCKET NO. 05-441(A)} AND SINCE THE APPELLANT HAS TESTIFIED THAT THE WARE STORE IS OF THE SAME DESIGN AS THE WAREHAM STORE, WITH THE EXCEPTION THAT THE WARE STORE HAS A BREAK TANK, THE FOLLOWING VARIANCES ARE GRANTED VIA THE WAREHAM APPEAL AND VIA THE MECHANISM OF RECENTLY AMENDED CODE SECTIONS 780 CMR 122.4.4 AND 903.2.1

EXPOSED, EXPANDED PLASTIC STORAGE IN THE FORM OF SHEET INSULATION STORED ON RACKS

- By testimony of the Appellant, NFPA-13 does not have protection criteria for this commodity thus large scale testing was performed to demonstrate that a ceiling-mounted early suppression fast action (ESFR) sprinkler system of Lowes design is adequate and therefore Lowes seeks to utilize such AFPD subject to the limitations associated with the testing and engineering judgment assumptions. This portion of the appeal seeks allowance of the Lowes approach as the Building Code- referenced Standard NFPA 13, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate.

FLAMMABLE LIQUIDS STORAGE ON RACKS

- By testimony of the Appellant, the protection criteria in NFPA 30 for ESFR sprinkler systems do not match the storage arrangement at a Lowe's Store thus large scale testing of a ceiling-mounted ESFR system coupled with an in-rack sprinkler system demonstrated that such approach exceeded control mode suppression and therefore Lowes seeks to utilize such AFPD subject to the limitations associated with the testing and engineering judgment assumptions. This portion of the appeal seeks allowance of the Lowes approach as the Building Code- referenced Standard NFPA 30, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate.

CARPET RACKS

- By testimony of the Appellant, NFPA 13 does not provide protection criteria for carpet racks, although FM Data Sheet 8-30 "Storage of Carpets" does address such storage but does not address the use of an ESFR sprinkler system, but via engineering judgment, the Appellant argued that the Lowes proposed protection for carpet storage is equivalent to protection requirements of the FM Data Sheet 8-30 requirements. This portion of the appeal seeks allowance of the Lowes approach as the Building Code- referenced Standard NFPA 13, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate.

CARPET CAROUSELS

- By testimony of the Appellant, NFPA-13 does not provide a protection design criteria for carpet carousels* but the Appellant argued that, via engineering judgment, an ESFR sprinkler system, similar to that used for exposed, expanded plastic storage is sufficient. This portion of the appeal seeks allowance of the Lowes approach as the Building Code-referenced Standard NFPA 13, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate.

DISPLAY MODULES

- The Appellant testified that some Lowes displays have solid horizontal members but that NFPA-13 restricts solid shelving that is greater than 20 sq. ft. in racks, thus large scale testing was performed at Underwriters Laboratories to evaluate the adequacy of a ceiling level ESFR sprinkler system and it was determined that such ESFR system is adequate. This portion of the appeal seeks allowance of the Lowes approach demonstrating that the full scale tested suppression design is acceptable in spite of the requirements of NFPA 13.

POOL CHEMICAL (LEVEL 2 OXIDIZER) STORAGE

- The Appellant testified that it is the intention of Lowes to store such pool chemical (Level 2 oxidizer) not in the building enclosed sales area and rather store same in the open-sided garden center and that corrected statements, indicating such, would be filed

relative to Schirmer Reports filed (such corrected statements have been duly filed and are a part of the record); the Appellant further testified that the current 6th Edition State Building Code references the 1995 Edition of NFPA 430 "Storage of Liquid and Solid Oxidizers" and the 2002 Edition of NFPA 13 "Standard for the Installation of Sprinkler Systems" but these Editions do not allow a dry pipe sprinkler system. The Appellant testified that the NFPA has updated these particular standards by adding provisions for dry pipe systems, and the proposed dry pipe sprinkler system conforms to these updated Standards (2004 Edition of NFPA 430 and the 2007 Edition of NFPA 13), thus the Appellant seeks approval to utilize these updated Standards for dry pipe sprinkler design for the subject hazard (Level 2 Oxidizer). This portion of the appeal seeks allowance of the Lowes approach as the Building Code- references earlier versions of NFPA Standards NFPA 13 and NFPA 430, and Lowes seeks the use of later versions of these Standards.

AEROSOL MERCHANDIZING

The Appellant testified that the current 6th Edition State Building Code references the 1994 Edition of NFPA 30B "Code for the Manufacture and Storage of Aerosol Products", where as the criteria used for the protection of Aerosols merchandizing first appeared in the 2002 Edition of NFPA 30B which Lowes seeks to utilize for design purposes.

5. The Appellant has also obtained a third-party reviewer, FirePro, Inc. (hereafter "FirePro"). The Appellant has filed with the Board a FirePro report dated July 3, 2007 addressing the break tank design and an earlier report dated June 27, 2007, in which FirePro makes detailed recommendations regarding the Town of Wareham variances noted in paragraph 4 above. All FirePro recommendations were taken into account in the finalized version of the Alternative Fire Protection Designs identified in paragraph 4, and as discussed at the July 10, 2007 meeting. The third party reviewer agrees with the AFPD proposals presented and additional requirements imposed at this Hearing.

CONCLUSION AND ORDER

At the conclusion of the presentation of both the break tank variance request and by reference, the similarly-needed seven (7) requests set forth in paragraph 4 (and directly similar to the 7 variances requested and granted for the Wareham Lowe's store), it was duly moved and seconded and voted unanimously to grant variances on each variance request, as described in this appeal, the Schirmer Reports and the Wareham Appeal Decision (The Schirmer Reports are attached and made a part of this Decision [05-442(A)]; the Wareham variances[05-441(A)] are repeated here in this Decision [(05-442(A); all as noted below.

In accordance with the provisions of amended Section 780 CMR 903.2.1, {which, in part reads: "*"When a variance is granted under this section (903.2.1) for a bulk merchandising retail building as defined in section 426.2.1, and when the condition appealed is common to future buildings of the owner, the State Building Code Appeals Board, upon request of the owner, may provide that the variance shall be applicable to such future buildings. If such request is made, a quorum of the Board shall hear the appeal. Each such applicability to a future building will be subject to determination as prescribed in section 110.8 by the building*

official in conjunction with the head of the local fire department that its use is in conformity with the terms of the variance."}.

To this end, these variances shall be applicable to future Lowe's stores to be built in the Commonwealth of Massachusetts employing the common AFPDs presented herein; additionally it is also noted that such AFPD provisions would be allowed "retrofitted" into existing Lowes stores provided all applicable permitting, technical requirements and stipulations are met.

Accordingly, with respect to the application for variance submitted by the Appellant herein, the following action shall be taken:

USE OF NFPA 20-2007 EDITION FOR THE DESIGN OF THE BREAK TANK

This portion of the appeal seeks, by variance, the use of the 2007 Edition of NFPA 20. Based on testimony of the Appellant, the 2007 Edition of NFPA 20 provides necessary guidelines for using a combination of an on-site water storage tank and automatic refill from a reliable source to provide the full fire protection demand – such guidelines lacking in the Building Code-currently referenced NFPA 20-2003 Edition.

IN ORDER TO FULLY UNDERSTAND THIS BREAK TANK ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENT it is necessary to refer to: the Schirmer Report, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Ware, MA and Future Lowe's Stores", dated June 27, 2007, made a part of this Decision, and:

- The break tank supply plus refill shall be such that the maximum required fire flow for 2 hours shall be met.
- Also refer to the Schirmer Report-proper for greater design and construction detail.

On these bases the variance is granted.

THE FOLLOWING VARIANCES, GRANTED TO THE LOWE'S IN WAREHAM [DOCKET NO. 05-441(A)] APPLY TO THE LOWE'S STORE IN WARE AS WELL

EXPOSED, EXPANDED PLASTIC STORAGE IN THE FORM OF SHEET INSULATION STORED ON RACKS ALTERNATIVE FIRE PROTECTION DESIGN

This portion of the appeal seeks allowance of the Lowes approach as the Building Code-referenced Standard NFPA 13, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate (NFPA-13 does not have protection criteria for this commodity).

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

- The AFPD design scheme as presented is acceptable - A ceiling mounted ESFR sprinkler system with a maximum ceiling to sprinkler deflector distance limited to 14 inches and no storage of exposed, expanded Group A plastics are permitted on the rack on the back side of the sheet insulation rack.
- Also refer to the Schirmer document-proper for greater design and construction detail.
- A minimum of 15 feet of separation or a vertical barrier will be maintained between the exposed expanded plastic storage and storage of groups of the following commodities:
    - Exposed expanded group A plastics (sheet insulations)
    - Aerosols / flammable liquids (paints)
    - Carpet racks
    - Carpet carousels
    - Display modules
- The final rack plan will be posted in a prominent location in each store satisfactory to local fire and building department officials.
- The maximum storage height in the area occupied for exposed expanded plastics storage is 20 feet
- The maximum ceiling height in the area occupied for exposed expanded plastics storage is 25 feet.
- The minimum aisle width is 7'-6".
- The maximum heat release rate of any exposed expanded plastic is 378.5 kW/m^2 as determined in a cone calorimeter test.
- Lowe's will maintain heat release information on any exposed expanded plastics sold in Massachusetts and make the information available to local authorities upon request.
- The emergency escape plan is posted at the doors of the building.

- Class 2 oxidizers shall not be stored inside the building (but may be stored in the garden center area with appropriate precautions).
- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.
- On these bases the variance is granted.

FLAMMABLE LIQUIDS STORAGE ON RACKS ALTERNATIVE FIRE PROTECTION DESIGN

This portion of the appeal seeks allowance of the Lowes approach as the Building Code-referenced Standard NFPA 30, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate (the protection criteria in NFPA 30 for ESFR sprinkler systems do not match the storage arrangement at a Lowe's Store thus large scale testing of a ceiling-mounted ESFR system coupled with an in-rack sprinkler system demonstrated that such approach exceeded control mode suppression and therefore Lowes seeks to utilize such AFPD).

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

- The design scheme, as presented is acceptable; - Flammable (excluding Class 1A flammables) and combustible liquids storage racks will be protected with ceiling level ESFR sprinklers and one level of ordinary temperature, quick response, K11.2 longitudinal flue space in-rack sprinklers spaced approximately 50 inches on center and located approximately 7 feet above floor level. Transverse flue spaces will be 3-inches wide.
- Also refer to the Schirmer document-proper for greater design and construction detail.
- A minimum of 15 feet of separation or a vertical barrier will be maintained between the storage of groups of the following commodities:
    - Exposed expanded group A plastics (sheet insulations)
    - Aerosols / flammable liquids (paint products)
    - Carpet racks
    - Carpet carousels
    - Display modules

- The maximum ceiling height in the area occupied for combustible liquids storage is 30 feet.
- The maximum storage of combustible liquids is 14 feet.
- 1 gallon paint containers being of non relieving type but 5 gallon containers being of the pressure-relieving type and all combustible liquids paint cans shall be metal.
- Class 2 oxidizers shall not be stored inside the building (but may be stored in the garden center area with appropriate precautions).
- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.

On these bases the variance is granted.

CARPET RACKS ALTERNATIVE FIRE PROTECTION DESIGN

This portion of the appeal seeks allowance of the Lowes approach as the Building Code-referenced Standard NFPA 13, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate (NFPA 13 does not provide protection criteria for carpet racks, although FM Data Sheet 8-30 "Storage of Carpets" does address such storage but does not address the use of an ESFR sprinkler system).

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

- The design scheme, as presented is acceptable - Ceiling level ESFR sprinklers designed in accordance with NFPA 13; one level of ordinary temperature, standard response, K5.6, in-rack sprinklers, installed per FM Data Sheet 8-30 "Storage of Carpets" w/such in-rack sprinklers installed approximately 11 feet above floor level. A 24 inch deep draft curtain will be installed at the ceiling level around the carpet racks.
- Also refer to the Schirmer document-proper for greater design and construction detail.
- Class 2 oxidizers shall not be stored inside the building (but may be stored in the garden center area with appropriate precautions).
- A minimum of 15 feet of separation or a vertical barrier will be maintained between the storage of groups of the following commodities:
    - Exposed expanded group A plastics (sheet insulations)

- Aerosols / flammable liquids (paint products)
- Carpet racks
- Carpet carousels
- Display modules

- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.
- On these bases the variance is granted.

CARPET CAROUSELS ALTERNATIVE FIRE PROTECTION DESIGN

This portion of the appeal seeks allowance of the Lowes approach as the Building Code-referenced Standard NFPA 13, as referenced in Chapter 9 and other portions of 780 CMR, is inadequate (NFPA-13 does not provide a protection design criteria for carpet carousels).

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

- The design scheme, as presented is acceptable - Ceiling level ESFR sprinklers designed in accordance with NFPA 13.
- Also refer to the Schirmer document-proper for greater design and construction detail.
- Class 2 oxidizers shall not be stored inside the building (but may be stored in the garden center area with appropriate precautions).
- A minimum of 15 feet of separation or a vertical barrier will be maintained between the storage of groups of the following commodities:
    - Exposed expanded group A plastics (sheet insulations)
    - Aerosols / flammable liquids (paint products)
    - Carpet racks
    - Carpet carousels
    - Display modules

- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.
- On these bases the variance is granted.

DISPLAY MODULES ALTERNATIVE FIRE PROTECTION DESIGN

This portion of the appeal seeks allowance of the Lowes approach demonstrating that the full scale tested suppression design is acceptable in spite of the requirements of NFPA 13 (some Lowes displays have solid horizontal members but that NFPA-13 restricts solid shelving that is greater than 20 sq. ft. in racks, thus large scale testing was performed).

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

- The design scheme, as presented is acceptable - Ceiling level ESFR sprinklers, in lieu of extended coverage sprinklers, shall be allowed.
- Also refer to the Schirmer document-proper for greater design and construction detail.
- Class 2 oxidizers shall not be stored inside the building (but may be stored in the garden center area with appropriate precautions).
- The maximum roof height shall be 30 feet in the protected area.
- The maximum storage height shall be 22 feet.
- The maximum aisle width shall be 7'-6".
- Minimum transverse and longitudinal flues must be provided.
- Storage in the aisle is permissible provided the aisle storage is no more than 4 feet high and a minimum clear aisle width of 4 feet is maintained.
- A minimum of 15 feet of separation or a vertical barrier will be maintained between the storage of groups of the following commodities:
    - Exposed expanded group A plastics (sheet insulations)
    - Aerosols / flammable liquids (paint products)
    - Carpet racks
    - Carpet carousels

- Display modules

- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.

On these bases the variance is granted.

POOL CHEMICAL (LEVEL 2 OXIDIZER) STORAGE ALTERNATIVE FIRE PROTECTION DESIGN

This portion of the appeal seeks allowance of the Lowes approach as the Building Code-references earlier versions of NFPA Standards NFPA 13 and NFPA 430, and Lowes seeks the use of later versions of these Standards.

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

- The design scheme, as presented is acceptable – There is offered an Option 1 involving open rack storage; a ceiling mounted preaction sprinkler system coupled with in-rack sprinklers as well or an Option 2 where pool chemicals are stored in two hour fireresistant rated sprinklered cabinets with self-closing doors – ceiling mounted dry-pipe sprinklers, in conjunction with cabinet enclosure sprinklers also tied to the dry pipe system are utilized.

- Also refer to the Schirmer document-proper for greater design and construction detail.

- Protecter wire shall be used in conjunction with the preaction sprinkler system under Option 1 for initiation purposes.

- The Fire Chief having jurisdiction has the right to select either Option1 or Option 2 as discussed and presented in the Schirmer Document.

- If Option 2 is used then the response time index and the activation temperatures for the sprinklers and the fusible link on the cabinet will be reviewed and appropriately matched.

- If Option 2 is selected, shelving arrangements and pool chemical storage shall be such that they do not interfere with the self-closing doors of the cabinetry.

- A minimum of 15 feet of separation or a vertical barrier will be maintained between the storage of groups of the following commodities:

    - Exposed expanded group A plastics (sheet insulations)

- Aerosols / flammable liquids (paint products)
- Carpet racks
- Carpet carousels
- Display modules

- Pool chemical will not be stored in the inside sales area but will be stored in the open-sided garden center.
- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.
- On these bases the variance is granted.

AEROSOL MERCHANDIZING ALTERNATIVE FIRE PROTECTION DESIGN

For this portion of the Appeal, the Appellant testified that the current 6th Edition State Building Code references the 1994 Edition of NFPA 30B "Code for the Manufacture and Storage of Aerosol Products", where as the criteria used for the protection of Aerosols merchandizing first appeared in the 2002 Edition of NFPA 30B which Lowes seeks to utilize for design purposes.

IN ORDER TO FULLY UNDERSTAND ALL ALTERNATIVE FIRE PROTECTION DESIGN REQUIREMENTS it is necessary to refer to: the Schirmer document, titled "Alternative Fire Protection Designs for Lowe's Home Improvement Center Wareham, MA and Future Lowe's Stores", dated February 19, 2007, and further amended on June 27, 2007 and again on July 5, 2007, made a part of this Decision, and:

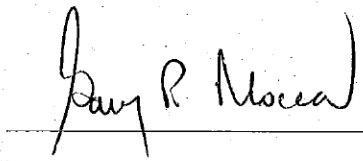
- The design scheme, as presented is acceptable – Ceiling level ESFR sprinkler system plus in-rack sprinklers, and controlled flue spacing.
- Also refer to the Schirmer document-proper for greater design and construction detail.
- Class 2 oxidizers shall not be stored inside the building (but may be stored in the garden center area with appropriate precautions).
- A solid barrier is installed above the aerosol in-rack sprinklers.
- Total quantity of Level 2 and 3 aerosol products will not exceed 10,000 pounds net weight within a 25,000 sq. ft. sales area.
- Uncartoned, display cut cartons and cartooned product are controlled (see the Schirmer document for detail).
- Aisle width shall be a minimum of 7'-6".

- To avoid a fire occurring at an interface which mixes commodities in contiguous racks, a minimum of 15 feet of separation or a vertical barrier will be maintained between storage of groups of the following commodities:
    - Exposed expanded group A plastics (sheet insulations)
    - Aerosols / flammable liquids (paint products)
    - Carpet racks
    - Carpet carousels
    - Display modules
- The proposed AFPD, as described above, has been found acceptable to the independent third party reviewing engineer.

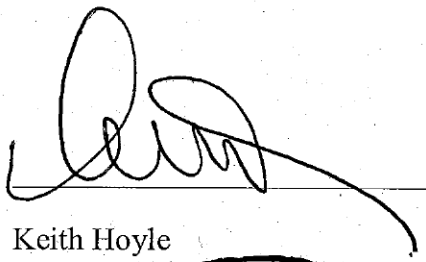
On these bases the variance is granted.

Petition for variances GRANTED.

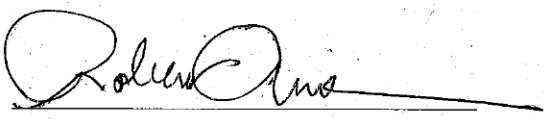
SO ORDERED,



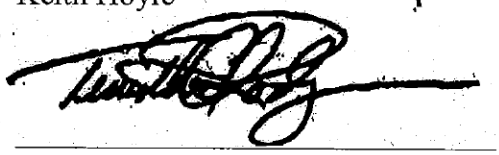
Gary Moccia, Chairman



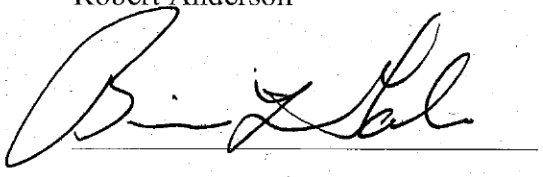
Keith Hoyle



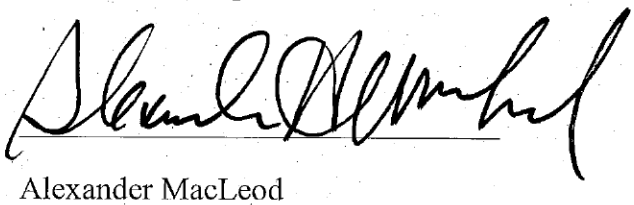
Robert Anderson



Timothee Rodrique



Brian Gale



Alexander MacLeod

(reviewed Case and Final Draft Decision)

Dated: August 14, 2007

In accordance with Mass. G.L. Chapter 30A, Section 14, any person aggrieved by this decision may appeal the decision to a court of competent jurisdiction within 30 days.